

PATENT

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In the Claims:

Please delete claims 68-71 and 73-82 without prejudice to their presentation in another application and add new claims 83-87 as follows:

P1 1 83. (New claim) A system of associated components for preparing a set of oligonucleotides that possess at least one property comprising:

a computer network that prepares a virtual library of oligonucleotides targeted to a selected nucleic acid and generates synthesis instructions in computer manipulable form for each of said oligonucleotides in said virtual library, wherein said computer network reduces the members of said virtual library of oligonucleotides by a process of selection based on targeting a functional region of said selected nucleic acid;

an automated synthesizer that receives said synthesis instructions from said computer network and synthesizes a set of real oligonucleotides corresponding to said virtual set of oligonucleotides having reduced members; and

an apparatus that accepts said set of real oligonucleotides and performs at least one procedure for each of said real oligonucleotides wherein said procedure identifies particular members of said set possessing said at least one property, wherein said procedure is computer-controlled polymerase chain reaction or computer-controlled enzyme-linked immunosorbent assay.

2 84. (New claim) The system of claim 83 wherein said functional region is the transcription start site, 5' cap, start codon, 5'UTR, 3'UTR, stop codon, 5' splice site or polyadenylation site.

3 85. (New claim) A system of associated components for preparing a set of oligonucleotides that possess at least one property comprising:

a computer network that prepares a virtual library of oligonucleotides targeted to a selected nucleic acid and generates synthesis instructions in computer manipulable form for each of said oligonucleotides in said virtual library, wherein said computer network reduces the members of said virtual library of oligonucleotides by one or more of i) a process of selection based on target accessibility to said selected nucleic acid, ii) a process of selection based on uniform distribution of

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oligonucleotide compounds across said selected nucleic acid, or iii) a process of selection based on targeting a functional region of said selected nucleic acid;

an automated synthesizer that receives said synthesis instructions from said computer network and synthesizes a set of real oligonucleotides corresponding to said virtual set of oligonucleotides having reduced members;

a first apparatus that accepts said set of real oligonucleotides and performs at least one procedure for each of said real oligonucleotides wherein said procedure identifies particular members of said set possessing said at least one property, wherein said procedure is computer-controlled polymerase chain reaction or computer-controlled enzyme-linked immunosorbent assay; and

a second apparatus selected from the group consisting of liquid chromatography, optical density reader, mass spectroscopy, gel fluorescence and scintillation imaging, and capillary gel electrophoresis.

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26. (New claim) A system of associated components for preparing a set of oligonucleotides that possess at least one property comprising:

a computer network that prepares a virtual library of oligonucleotides targeted to a selected nucleic acid and generates synthesis instructions in computer manipulable form for each of said oligonucleotides in said virtual library, wherein said computer network reduces the members of said virtual library of oligonucleotides by one or more of i) a process of selection based on target accessibility to said selected nucleic acid, ii) a process of selection based on uniform distribution of oligonucleotide compounds across said selected nucleic acid, or iii) a process of selection based on targeting a functional region of said selected nucleic acid;

an automated synthesizer that receives said synthesis instructions from said computer network and synthesizes a set of real oligonucleotides corresponding to said virtual set of oligonucleotides having reduced members; and

an apparatus that accepts said set of real oligonucleotides and performs at least one procedure for each of said real oligonucleotides wherein said procedure identifies particular members of said set possessing said at least one property, wherein said procedure is computer-controlled

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polymerase chain reaction or computer-controlled enzyme-linked immunosorbent assay, and wherein said property is modulating said selected nucleic acid.

87. (New claim) A system of associated components for preparing a set of oligonucleotides that possess at least one property comprising:

a computer network that prepares a virtual library of oligonucleotides targeted to a selected nucleic acid and generates synthesis instructions in computer manipulable form for each of said oligonucleotides in said virtual library, wherein said computer network reduces the members of said virtual library of oligonucleotides by one or more of i) a process of selection based on target accessibility to said selected nucleic acid, ii) a process of selection based on uniform distribution of oligonucleotide compounds across said selected nucleic acid, or iii) a process of selection based on targeting a functional region of said selected nucleic acid; wherein said computer network searches at least one database for alternative transcripts;

an automated synthesizer that receives said synthesis instructions from said computer network and synthesizes a set of real oligonucleotides corresponding to said virtual set of oligonucleotides having reduced members; and

an apparatus that accepts said set of real oligonucleotides and performs at least one procedure for each of said real oligonucleotides wherein said procedure identifies particular members of said set possessing said at least one property, wherein said procedure is computer-controlled polymerase chain reaction or computer-controlled enzyme-linked immunosorbent assay.

REMARKS

Claims 68-71 and 73-82 have been cancelled without prejudice to their presentation in another application. New claims 83-87 have been added, support for which can be found, for example, in claims 68, 74, 75, 79, 80 and 82. Upon entry of the present amendment, claims 83-87 will be pending.

As a preliminary matter, Applicants acknowledge receipt of the "Attachment for PTO-948" outlining changes for prosecution of applications containing drawings. Formal drawings have been